

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
21 July 2005 (21.07.2005)

PCT

(10) International Publication Number  
**WO 2005/066661 A1**

(51) International Patent Classification<sup>7</sup>:

**G01V 1/36**

(21) International Application Number:

PCT/GB2004/005427

(22) International Filing Date:

23 December 2004 (23.12.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

0400409.9 9 January 2004 (09.01.2004) GB

(71) Applicant (for all designated States except CA, FR, US):  
**WESTERNGEICO SEISMIC HOLDINGS LIMITED**; Citco Building, P.O. Box 662, Road Town Tortola (VG).

(71) Applicant (for CA only): **WESTERNGEICO CANADA LIMITED** [CA/CA]; 237 - 4th Avenue S.W., 30th Floor, Fifth Avenue Place, Calgary, Alberta T2P 4X7 (CA).

(71) Applicant (for FR only): **SERVICES PETROLIERS SCHLUMBERGER** [FR/FR]; 42, rue Saint-Dominique, F-75007 Paris (FR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **ÖZBEK, Ali** [TR/GB]; 17 Faulkner Close, Milton, Cambridge CB4 6EF (GB). **HOTEIT, Leila** [LB/FR]; 39A Avenue Daumesnil, Apt C11, F-75012 Paris (FR).

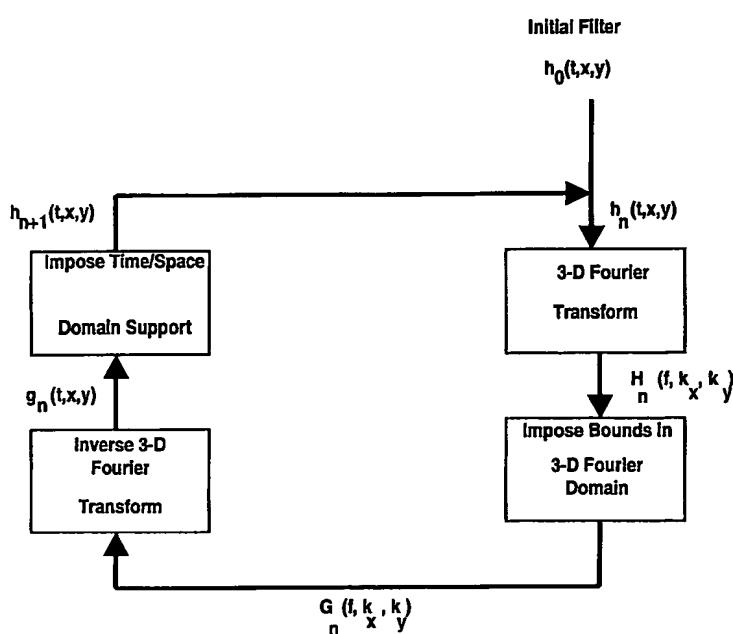
(74) Agent: **MIRZA, Akram, Karim**; Intellectual Property Law Department, Schlumberger Cambridge Research Limited, High Cross, Madingley Road, Cambridge CB3 0EL (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,

*[Continued on next page]*

(54) Title: SEISMIC ACQUISITION AND FILTERING



(57) Abstract: An iterative process is described for obtaining a finite impulse filter to remove noise from seismic data through an iterative process with constraints on the filter applied in both, the original space-time and the transform frequencywavenumber at each iteration step.

WO 2005/066661 A1



SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,  
GQ, GW, ML, MR, NE; SN, TD, TG).

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**Published:**

— *with international search report*